

10/720,813
Art Unit 2837
Docket VAL 185P2

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) For an electric motor used in a vehicle, which motor reaches different free-running speeds in different operating environments, a method comprising:
 - a) after start-up of the motor, establishing a number S1 representing a normal speed;
 - b) measuring operating speed S2 of the motor; and
 - c) if (S1 minus S2) is a positive number exceeding a predetermined limit, then either shutting down or reversing the motor.
2. (Original) Method according to claim 1, and further comprising:
 - d) if (S1 minus S2) is a negative number, then continuing operation of the motor.
3. (Original) Method according to claim 1, and further comprising:
 - d) examining at least one predetermined environmental parameter; and
 - e) if said parameter reaches a specified limit, then changing the predetermined limit.
4. (Original) Method according to claim 3, wherein the parameter is ambient temperature.

10/720,813
Art Unit 2837
Docket VAL 185P2

5. (Original) Method according to claim 3, and further comprising:
 - f) if $(S_1 - S_2)$ is found to be a positive number exceeding a predetermined limit in paragraph (e), then repeatedly finding $(S_1 - S_2)$ at different times prior to shutting down or reversing the motor.
6. (Original) A method, comprising:
 - a) maintaining an electric motor in a vehicle, said motor having a steady-state operating speed which changes when temperature and/or system voltage change;
 - b) starting the motor;
 - c) ascertaining steady-state speed of the motor immediately after starting, and setting a baseline speed;
 - d) measuring speed of the motor while running; and
 - e) if the sum (baseline speed - measured speed) is a positive number exceeding a predetermined number N, then either shutting off or reversing the motor.
7. (Original) Method according to claim 6, and further comprising:
 - f) changing the number N when predetermined events occur.
8. (Original) Method according to claim 6, and further comprising:
 - f) continuing operation of the motor if measured speed exceeds baseline speed.
9. (Original) Method according to claim 6, wherein baseline speed equals steady-state speed of the motor, immediately after initial acceleration.

10/720,813
Art Unit 2837
Docket VAL 185P2

10. (Original) Method according to claim 6, wherein, in paragraph (e), if the sum (baseline speed - measured speed) is found to be a positive number exceeding a predetermined number N, then

- f) refraining from shutting off and reversing the motor at that time;
- g) repeatedly finding said sum for each of several baseline speeds measured at successive times thereafter, and
- h) if a specified number of the sums are all positive and exceeding N, then either shutting off or reversing the motor.

11. (Original) A method, comprising:

- a) maintaining an electric motor in a vehicle, said motor having a steady-state operating speed which changes when temperature and/or system voltage change;
- b) starting the motor;
- c) ascertaining steady-state speed of the motor immediately after starting, and setting a baseline speed;
- d) measuring speed of the motor while running;
- e) if the sum (baseline speed - measured speed) is a negative number, then continuing operation of the motor;
- f) if the sum (baseline speed - measured speed) is a positive number exceeding a predetermined number N, thereby indicating that a deceleration of N below baseline has occurred, then either shutting off or reversing the motor;
- g) ascertaining whether predetermined events have occurred, and if so, changing the predetermined number N; and
- i) repeating processes of paragraphs (a) - (f) at least once.

12. (Original) A method of operating a control for an electric motor, which motor reaches different free-running speeds in different operating environments, a method comprising:

- a) after start-up of the motor, establishing a number S1 representing a normal speed;
- b) measuring operating speed S2 of the motor;
- c) computing (S1 minus S2); and
- d) if (S1 minus S2) is a positive number exceeding a predetermined limit, then either shutting down or reversing the motor.

13. (Original) Apparatus, comprising:

- a) an electric motor in a vehicle, said motor having a steady-state operating speed which changes when temperature and/or system voltage change;
- b) a control for
 - i) ascertaining steady-state speed of the motor immediately after starting, and setting a baseline speed;
 - ii) measuring speed of the motor while running; and
 - iii) if the sum (baseline speed - measured speed) is a positive number exceeding a predetermined number N, then either shutting off or reversing the motor.

14. (Original) Apparatus according to claim 13, and further comprising:

- c) means for changing the number N when predetermined events occur.

15. (Original) Apparatus according to claim 13, and further comprising:

- c) means for continuing operation of the motor if measured speed exceeds baseline speed.

16. (Original) Apparatus according to claim 13, wherein baseline speed equals steady-state speed of the motor, immediately after initial acceleration.

17. (Original) Apparatus, comprising:

- a) an electric motor in a vehicle, said motor having a steady-state operating speed which changes when temperature and/or system voltage change;
- b) means for
 - i) ascertaining steady-state speed of the motor immediately after starting, and setting a baseline speed;
 - ii) measuring speed of the motor while running;
 - iii) if the sum (baseline speed - measured speed) is a negative number, then continuing operation of the motor;
 - iv) if the sum (baseline speed - measured speed) is a positive number exceeding a predetermined number N, thereby indicating that a deceleration of N below baseline has occurred, then either shutting off or reversing the motor;
 - v) ascertaining whether predetermined events have occurred, and if so, changing the predetermined number N; and
 - vi) repeating processes of paragraphs (a) - (f) at least once.

18. (Original) For an electric motor used in a vehicle, which motor reaches different free-running speeds in different operating environments, apparatus comprising:

- a) means for establishing a number S1 representing a normal speed after start-up of the motor;
- b) means for measuring operating speed S2 of the motor; and
- c) means for either shutting down or reversing the motor, if (S1 minus S2) is a positive number exceeding a predetermined limit.

10/720,813
Art Unit 2837
Docket VAL 185P2

19. (Original) Apparatus according to claim 18, and further comprising:
 - d) means for examining at least one predetermined environmental parameter, and if said parameter reaches a specified limit, then changing the predetermined limit.
20. (Original) Apparatus according to claim 19, wherein the parameter is ambient temperature.
21. (Original) Method according to claim 1, and further comprising:
 - d) using the motor to operate a window.
22. (Original) Method according to claim 6, and further comprising:
 - f) using the motor to operate a window.
23. (Original) Method according to claim 11, and further comprising:
 - j) using the motor to operate a window.
24. (Original) Method according to claim 12, and further comprising:
 - e) using the motor to operate a window.
25. (Original) Apparatus according to claim 13, and further comprising:
 - c) a window which the motor operates.
26. (Original) Apparatus according to claim 17, and further comprising:
 - c) a window which the motor operates.

27. (Original) Apparatus according to claim 17, and further comprising:

- c) a window which the motor operates.

28. (Original) Apparatus according to claim 18, and further comprising:

- d) a window which the motor operates.

29. (New) For an electric motor in a vehicle, and a sensor associated with the motor which produces a train of pulses wherein time intervals between adjacent pulses are inversely proportional to motor speed, a method comprising:

- a) starting the motor, thereby causing the motor to accelerate, thereby causing the time intervals to progressively decrease;
- b) monitoring the time intervals;
- c) ascertaining a termination in the decrease of the time intervals and declaring then-current motor speed as free running motor speed; and
- d) after step (c), using a collection of the time intervals to determine whether motor speed deviates from free running speed by a predetermined amount and, if so, either shutting down or reversing the motor.

30. (New) Method according to claim 29, wherein the pulses are produced by a tooth wheel driven by the motor, wherein each tooth excites the sensor.

31. (New) Method according to claim 29, wherein the motor drives a powered window.

32. (New) Method according to claim 29, wherein the determining step of paragraph (d) comprises ascertaining whether a number N sequential pulses occupy a time greater than a predetermined time T.

33. (New) For an electric motor in a vehicle, and a sensor associated with the motor which produces a train of pulses wherein time intervals between adjacent pulses are inversely proportional to motor speed, a method comprising:

- a) each time the motor starts, setting a baseline reference, wherein the baseline reference under first environmental conditions is different from the baseline reference under second environmental conditions; and
- b) after the baseline reference is set, determining whether a predetermined number N of sequential pulses occupies more than a predetermined time T and, if so, either shutting down or reversing the motor.

34. (New) Method according to claim 33, wherein the pulses are produced by a toothed wheel on a shaft of the motor, wherein each tooth excites the sensor.

35. (New) Method according to claim 33, wherein the motor drives a powered window.

36. (New) Method according to claim 33, wherein motor speed can be computed from N and T, and motor speed immediately prior to shut-down or reversal as in paragraph (b) is less than that corresponding to the baseline reference.

37. (New) Method according to claim 33, wherein the relationship between N and T is predetermined, and does not change as environmental conditions change.

38. (New) For an electric motor in a vehicle, and a sensor associated with the motor which produces a train of pulses wherein time intervals between adjacent pulses are inversely proportional to motor speed, and wherein the time intervals decrease during startup of the motor, apparatus comprising:

- a) means for ascertaining a termination in the decrease of the time intervals and declaring then-current motor speed as free running motor speed; and
- d) means for using a collection of the time intervals to determine whether motor speed deviates from free running speed by a predetermined amount and, if so, either shutting down or reversing the motor.

39. (New) Apparatus according to claim 38, wherein the pulses are produced by a toothed wheel on a shaft of the motor, wherein each tooth excites the sensor.

10/720,813
Art Unit 2837
Docket VAL 185P2

40. Apparatus according to claim 38, wherein the motor drives a powered window.

41. (New) For an electric motor in a vehicle, and a sensor associated with the motor which produces a train of pulses wherein time intervals between adjacent pulses are inversely proportional to motor speed, apparatus comprising:

- a) means for setting a baseline reference each time the motor starts, wherein the baseline reference under first environmental conditions is different from the baseline reference under second environmental conditions; and
- b) means for determining, after the baseline reference is set, whether a predetermined number N of sequential pulses occupies more than a predetermined time T and, if so, either shutting down or reversing the motor.

42. (New) Apparatus according to claim 41, wherein the pulses are produced by a toothed wheel on a shaft of the motor, wherein each tooth excites the sensor.

43. (New) Apparatus according to claim 41, wherein the motor drives a powered window.

10/720,813
Art Unit 2837
Docket VAL 185P2

44. (New) Apparatus according to claim 41, wherein motor speed can be computed from N and T, and motor speed immediately prior to shut-down or reversal as in paragraph (b) is less than that corresponding to the baseline reference.

45. (New) Apparatus according to claim 41, wherein the relationship between N and T is predetermined, and does not change as environmental conditions change.

46. (New) Method according to claim 32, wherein motor speed can be computed from N and T, and motor speed immediately prior to shut-down or reversal as in paragraph (b) is less than that corresponding to the baseline reference.